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10/579,293	05/15/2006	Paolo Bostica	09952.0036	1485

22852 7590 09/14/2011		EXAMINER
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901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413	ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/579,293	BOSTICA ET AL.
	Examiner	Art Unit
	ADAM DUDA	2473

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>22 June 2011</u>.

2a) ☒ This action is FINAL.   2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) <u>38-40,42,43,45-57 and 59-74</u> is/are pending in the application.

   5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☒ Claim(s) <u>38-40,42,43,45-57 and 59-74</u> is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on <u>15 May 2006</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☒ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 03-11)   **Office Action Summary**   Part of Paper No./Mail Date 20110908

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for foreign priority based on an

application filed in Italy (PCT/IT03/00743) on 11/17/2003. It is noted, however, that

applicant has not filed a certified copy of the PCT/IT03/00743 application as required by

35 U.S.C. 119(b).

Response to Arguments mailed 6/22/2011

Applicant Argues:

Independent claims 38 and 55, as amended, recite either an architecture or method for monitoring quality of service in a telecommunication network including a set of mobile terminals having "at least one measuring agent configured to interface with processes selected from a group of processes for managing application sessions of said telecommunication network and processes executed by the mobile terminal for directly measuring operating conditions of said telecommunications network." Applicants respectfully submit that neither Menon nor Korhonen teach or suggest at least these features of Applicants' amended independent claims.

The Office Action correctly concedes that Menon fails to teach or suggest the above-recited feature of Applicants' independent claims. See Office Action at 18 ("Menon does not specifically disclose ... interfac[ing] with processes selected from a group of processes among processes for managing g application sessions of said telecommunication network and process for measuring operating conditions of said telecommunications network to derive therefrom a set of measurement data.") (emphasis removed). However, the Examiner applies Korhonen to allegedly cure the deficiencies of Menon. This is not correct. Korhonen, like Menon, fails to teach or suggest "at least one measuring agent configured to interface with processes selected from a group of processes for managing application sessions of said telecommunication network and processes executed by the mobile terminal for directly measuring operating conditions of said telecommunication network" as recited by Applicants' amended independent claims 38 and 55.

Korhonen generally discloses, "a method and system for distributing, transferring and monitoring QoS [Quality of Service] data in a packet switched mobile communication network." Korhonen, ¶ [0001]. In this system "QoS data obtained from the UMTS QoS components is transmitted to a monitoring agent MA" where MA exist in "the user equipment UE ... in the RNC [of the radio access network], and in the SGSN ... and GGSN [each of the core network]." Id. ¶ [0021]. Importantly "[t]he monitoring agent MA in a mobile station UE adds a QoS header field [to an IP packet transmitted from the UE to the other network components] according to the QoS wanted by the user ... ." Id. ¶ [0026]. The monitoring agents at the radio access network and the core network then add QoS values if necessary, to the IP packet, and eventually "[t]he packet provided with updated QoS data is received by[the mobile station UE ... ." Id. [0028]. At this point "the monitoring agent can "pre-process and refine QoS data into a form suited for applications." Id. ¶ [0021]. "These activities include e.g. the calculation of transfer rate, standard deviations and calculation of percentages e.g. in loss of packets." Id.

As shown above, instead of disclosing "at least one measuring agent configured to interface with ... processes executed by the mobile terminal for directly measuring operating conditions of said telecommunications network" as recited by Applicants' amended independent claims 38 and 55, Korhonen discloses that a user equipment's monitoring agent merely its quality of service data from another network element and then receives that quality of service data to the monitoring agent can process it. Korhonen ¶¶ [0021]-[0026]. Stated otherwise, Korhonen appears to contain no disclosure that its user equipment's monitoring agent "directly measur[es] operating conditions of said telecommunication network," as recited by Applicants' amended independent claims. Thus, Korhonen does not teach or suggest "at least one measuring agent configured to interface with ... processes executed by the mobile terminal for directly measuring operating conditions of said telecommunications network" as recited by Applicants' amended independent claims 38 and 55.

2 Claims 41 and 58 were previously cancelled without prejudice or disclaimer of their subject matter. Accordingly, the rejection of these claims under 35 U.S.C. § 103(a) is moot.

Examiner Respectfully Disagrees:

The claim language recites:

"configured to interface with processes selected from a group of processes for managing application sessions of said telecommunication network and processes executed by the mobile terminal for directly measuring operating conditions of said telecommunication network".

Specifically, the claims recite "interface with **processes** selected from a group of". The claims identify two groups of processes. The first group are "processes for managing application sessions of said telecommunication network" while the second group are "processes executed by the mobile terminal for directly measuring operating conditions of said telecommunication network". That is, "processes" are selected from the first group of "processes", or the second group of "processes", or both groups of processes. There is no language in the claim that limits the "processes" selection to a "process" from the first group and a "process" from the second group. Korhonan discloses, inter alia "processes for managing application sessions of said telecommunication network" in paragraphs 0033-0034. Specifically, in paragraphs 0033-0034 there is a disclosure of using (thus of processes) QoS data in the Replied field which is used to managing sessions of said telecommunication network by specifying the desired QoS (i.e., line rate, packet drop rate, BER, etc).

Applicants Argue:

Claims 38 and 55, as amended, also are patentably distinguishable from the cited art in that they require that "said at least one measuring agent is further configured to measure the load state of the mobile terminal and of the telecommunication network and to adapt processing, management and collection of the measurement data to the load state measured." *Portions of this subject matter have been incorporated from now- canceled claim 44.*

As amended, claims 38 and 55 address, among other things, an architecture and method for monitoring QoS which is able to adapt itself to the scenario in which the monitoring should be performed. As recited in the amended claims, the measuring agent is "configured to measure the load state" and "to adapt processing, management and collection of the measurement data to the load state measured." The cited art does not disclose or render obvious this subject matter.

In rejecting now-canceled claim 44, which recited the measuring agent being "configured to measure the load state" and "to adapt a monitoring of quality of service in said telecommunication network to the measured load state," the Examiner cited paragraphs [0170], [0182], and [0370] of Menon. See Office Action at 13. Those citations are unsupportable for rejecting either now-canceled claim 44 and, particularly, amended claims 38 and 55. Specifically, Menon's paragraph [0170] discusses collecting subscriber information in a registration procedure such as "data for subscriber provisioning and billing" or "services the subscriber has requested" unrelated to the measuring a load state as claimed. Paragraph [0182] refers to storing historical subscription activity information, which may include "subscribers' usage, in time, of services," a teaching distinct from "measur[ing] a load state" for the network. And rather than disclose "adapt[ing] processing, management and collection of the measurement data to the load state measured," Menon's paragraph [0370] discusses a completely different subject: "adaptation" with respect to "coordinating, or otherwise

interworking" between different signaling procedures (H.323 and GSM). In short, these citations to Menon amount to little more than collecting key words from Applicants' claims in the reference and are inadequate to support a prima facie rejection under Section 103.

Examiner Respectfully Disagrees:

Menon discloses "wherein said at least one measuring agent is further configured to measure the load state of the mobile terminal and of the telecommunication network" (see Menon; paragraph 170; disclosure of 'collection, storage, and management of subscriber, i.e., customer, data for subscriber provisioning .. . [such as] Quality of Service (QoS) level subscribed for'. Therefore, Menon collects and stores information that is measured such as the Quality of Service level – which is a measure of load state.). Furthermore, Menon discloses "to adapt processing, management and collection of the measurement data to the load state measured" (see Menon; paragraph 182; "The subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscription profiles, subscription activity and subscriber account balances. In an embodiment, subscription profiles include, but are not limited to, customer identification, customer service supported requests and the Quality of Service (QoS) subscribed for, or otherwise assigned."). The examiner believes applicant's arguments have been overcome.

Response to Arguments mailed 9/28/2010

Applicant Argues:

(P1)   Amended independent claims 38 and 55 are patentably distinguishable over the cited art in that they recite either an architecture or method for monitoring quality of service in a telecommunication network including a set of mobile terminals having "**at least one measuring agent configured to interface with processes selected from a group of processes for managing application sessions of said telecommunication network and processes for measuring operating conditions of said telecommunication network.**" The method also involves scheduling quality of service measuring campaigns and "**configuring, for executing said defined measuring campaign, at least one measuring agent associated with each mobile terminal of said subset according to said set of identifying characteristics...**"

(P2)   Applicant has proposed amending independent claims 38 and 55 and related dependent claims to clarify that the recited "terminals" are "mobile terminals." The basis of these amendments is evident both from the specification and from dependent claims 41 and 58, which have now been canceled. These amendments help to further distinguish the present invention from Menon and Korhonan.

(P3)   For example, in the Final Office Action, the Examiner appears to map the "**terminals**" recited in claims 38 and 55 alternately to "network nodes 856" or "base stations 30 or 101" in Menon. Final Office Action at 3-5. Menon generally discloses "a telecommunications system supporting wireless access that can handle both packet data and voice transmissions." Menon ¶ [0009]. Menon discloses that its telecommunication system comprises four sub-networks: a core packet data network, an Internet Protocol packet voice network, an Internet Protocol facsimile network, and an Operation Support System (OSS). See id. at ¶¶ [0051]-[0058]; see also id. at Fig. 1; Fig. 5. Clearly, Menon does not disclose or suggest the claimed subject matter relating to a "mobile terminal," as the independent claims now recite.

(P4)   Indeed, with respect to former claims 41 and 58, which recited that the "set of terminals comprises at least one mobile terminal," the Examiner contends that Menon meets this recitation by disclosing a wireless network. Final Office Action at 6, 21 ("see Menon: paragraph 0027; "FIG. 13 depicts a generic management protocol architecture protocol for management of a network node in a wireless access network"). But disclosure of a "wireless access network" in Menon is wholly insufficient to substantiate the obviousness of the claimed subject matter directed to a "mobile terminal" with the specific recitations of the methods performed by such a mobile terminal.

(P5)   Accordingly, Applicant respectfully submits that Menon fails to teach or suggest the claimed "set of mobile terminals, each mobile terminal of said set of mobile terminals housing at least one measuring agent" and "a scheduling module for scheduling quality of service measuring campaigns, said scheduling module identifying a subset of said set of mobile terminals.., and configuring, for executing said defined measuring campaign, at least one measuring agent housed by each mobile terminal of said subset," as required at least by Applicant's amended independent claim 38.

Examiner Responds:

Menon discloses and suggests the "mobile terminal" as the independent claims now recite. More specifically, paragraph 052 states that "In an embodiment, a network subscriber terminal 21, or simply terminal 21, comprises a PC and a CPRU 25". Therefore, clearly a "mobile terminal" is described as the "terminal" comprises a "customer premise radio unit" (i.e. a transmitter / receiver for wireless communication) and a "PC" (i.e. a computation device). By comprising a "terminal" with a "transmitter/receiver" and a "computation device" Menon discloses and suggests the "mobile terminal" of applicant's independent claims. Furthermore, Menon discloses a "wireless network" to which the "terminals" connect to. As such, Menon discloses and suggests the features recited in the independent claims. Examiner believes that applicant's concerns have been addressed and arguments fully responded to.

Applicant Argues:
         In addition, the proposed amendments further distinguish the independent claims from Menon and Korhonan in that they incorporate the subject matter of former claims 75 and 76. Specifically, independent claims 38 and 55 now require that a measuring agent manages an application session to derive therefrom a set of measurement data with each mobile terminal further comprising:

an elaboration agent configured to pre-process said set of measurement data derived from said application session; and a communication agent configured to send said set of pre-processed measurement data to said management and configuration subsystem.

         Again, in rejecting claims 75 and 76, the Examiner maps the claimed subject matter to "network nodes 856" in Menon, which are not "mobile terminals." Accordingly, the proposed amendments to claims 38 and 55 to incorporate the subject matter of claims 75 and 76 even further distinguishes them from the cited art.

Korhonen does not cure the above-noted deficiencies of Menon. Korhonen discloses "a method and system for distributing, transferring and monitoring QoS [Quality of Service] data in a packet-switched mobile communication network." Korhonen, ¶ [0001]. In this system, "QoS data obtained from the UMTS QoS components is transmitted to a monitoring agent MA," where MAs exist in "the user equipment UE, in the RNC [of the radio access network], and in the SSGN... and GGSN [each of the core network]." Id. ¶ [0021]. Importantly, "[t]he monitoring agent MA in a mobile station UE adds a QoS header field [to an IP packet transmitted from the UE to the other network components] according to the QoS wanted by the user .... " Id. ¶ [0026]. The monitoring agents of the radio access network and the core network then add QoS values, if necessary, to the IP packet, and eventually "[t]he packet provided with updated QoS data [is received by] the mobile station UE..." Id. ¶ [0028].

In other words, Korhonen only discloses that a user equipment's monitoring agent may request quality of service parameters to be provided to the radio access network or core network, instead of disclosing "a scheduling module for scheduling quality of service measuring campaigns, said scheduling module identifying a subset of said set of mobile terminals.., and configuring, for executing said defined measuring campaign, at least one measuring agent housed by each mobile terminal of said subset," as required by Applicant's amended independent claim 38.

Examiner Responds:

It appears applicants are, again, arguing that Menon does not disclose the

"Mobile Terminals". The examiner, in the above-written response has addressed this.

That is, Menon does disclose the "Mobile Terminals" in paragraph 052 states that "In an

embodiment, a network subscriber terminal 21, or simply terminal 21, comprises a PC

and a CPRU 25". Therefore, clearly a "mobile terminal" is described as the "terminal"

comprises a "customer premise radio unit" (i.e. a transmitter / receiver for wireless

communication) and a "PC" (i.e. a computation device). By comprising a "terminal" with

a "transmitter/receiver" and a "computation device" Menon discloses and suggests the

"mobile terminal" of applicant's independent claims. The Examiner believes that

applicant's arguments have been overcome and fully addressed.

Applicant Argues:

In the final Office Action, claims 51 and 68 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Menon in view of Korhonan and further in view of Bellifemine. Claims 51 and 68 depend from amended independent claims 38 and 55, which are allowable over Menon in view of Korhonan for at least the reasons outlined above. Bellifemine does not remedy the deficiencies of Menon and Korhonan outlined above, because it fails to disclose or render obvious, at least, a "set of mobile terminals, each mobile terminal of said set of mobile terminals housing at least one measuring agent" and "a scheduling module for scheduling quality of service measuring campaigns, said scheduling module identifying a subset of said set of mobile terminals ... and configuring, for executing said defined measuring campaign, at least one measuring agent housed by each mobile terminal of said subset," as recited in Applicant's amended claim 38 (and similarly in claim 55), as proposed to be amended. Therefore, the 35 U.S.C. § 103(a) rejection of dependent claims 51 and 68 cannot be maintained and should be withdrawn.

Examiner Responds:

1.   Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount
to a general allegation that the claims define a patentable invention without specifically
pointing out how the language of the claims patentably distinguishes them from the
references.

Applicant Argues:
        Furthermore, Applicant respectfully points out that the final Office Action presents new arguments as to the
application of the art against Applicant's claims. It is respectfully submitted that entry of the Amendment would allow the
Applicant to reply to the new arguments and place the application in condition for allowance.
Examiner Responds:

        It is respectfully noted that applicants provided new claims 75 and 76 preceding
the final action. As such, new claims for examination were presented by applicant and
as such new arguments were provided with appropriate citation. The examiner believes
applicant's concern has been fully addressed.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

2.   Claim 38 and 55 recite the limitation "the load state". There is insufficient
antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims **38-40, 42-43, 45-50, 52-67**, and **69-74** rejected under 35 U.S.C. 103(a)

as being unpatentable **Menon (US 2001/0001268)** in view of **Korhonan (EP 1 304 831**

A2)

Menon discloses:

Regarding claim 38, An architecture (see Menon; figure 1; "SMP" and

"75") for monitoring quality of service (see Menon; paragraph 0182; "The

subscriber management procedure 160 generates and supports network

management access to subscriber information including, but not limited to,

subscriber profiles, subscription activity and subscriber account balances. In an

embodiment, subscription profiles include, but are not limited to, customer

identification, customer service support requests and the Quality of Service

(QoS) subscribed for, or otherwise assigned. In an embodiment, subscription

activity information includes, but is not limited to, respective subscribers' usage,

in time, of service supported by the wireless access system 10, or 100.") in a

telecommunication network (see Menon; abstract; "telecommunications network")

comprising: a set of mobile terminals (see Menon; abstract; "a base station which

provides wireless access for CPRUs" which are terminals; figure 16; multiple

"Customer Premise Radio Units"), each mobile terminal of said set of mobile

terminals housing at least one measuring agent (see Menon; paragraph 0185;

"Each node manager 854, in turn, manages two or more network nodes 856.
The network nodes 856 comprise the CPRUs 25, base stations 30, ... "; figure
13; "Node (agent)" houses "SMP" which is the "subscriber management
procedure 160 generates and supports network management access to
subscriber information including, but not limited to, subscriber profiles ...
subscription profiles include, but are not limited to, customer identification,
customer service support requests and the Quality of Service (QoS) subscribed
for, or otherwise assigned.") configured to interface with applications (see
Menon; paragraph 0168; "the NNM platform 114 provides standard APIs
(Application Platform Interfaces) which allow attachment of third party
applications ... for purposes including, but not limited to, trouble-shooting and
error management, asset management and system, service and functionality
analysis"; paragraph 0188; "sports the application functionality for network node
management, including, but not limited to, configuration management, fault
management, performance management, accounting management and security
management. Likewise, the agent applications layer 841 of the node element
protocol stack 840 supports the application functionality for network node
management, including, but not limited to, configuration management, fault
management, performance management, accounting management and security
management.") wherein said at least one measuring agent is further configured
to measure (see Menon; paragraph 0170; "collection, storage, and management
of subscribers") the load state of the mobile terminal (see Menon; paragraph

0170; "parameters that have been assigned the respective subscriber for an agreed contractual period. An example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscribed for, or otherwise assigned, the respective subscriber."; paragraph 0182; "subscriber activity information includes, but is not limited to, respective subscribers' usage, in time, of services supported by the wireless access system 10, or 100 ... " Therefore, subscriber information is measured as such information is stored.) and of the telecommunication network and to adapt processing, management and collection of the measurement data to the load state measured (see Menon; paragraph 0182; "The subscriber management procedure 160 generates and supports network management access to subscriber information including, but not limited to, subscription profiles, subscription activity and subscriber account balances. In an embodiment, subscription profiles include, but are not limited to, customer identification, customer service support requests and the Quality of Service (QoS) subscribed for, or otherwise assigned."); and a management and configuration subsystem (see Menon; figure 9; "depicts management platforms within the management structure"; paragraph 0160; "network management"; paragraph 0146; "accounting management") comprising a scheduling module (see Menon; paragraph 0170; paragraph 0169; "subscriber registration module") for scheduling quality of service measuring campaigns (see Menon; paragraph 0170; "subscriber registration procedure 152 includes ... collection, storage, and management of subscriber, i.e. customer, data ... subscriber data includes, but is

not limited to, a subscriber profile ... example of a parameter associated with a

subscriber profile is a Quality of Service (QoS) level subscribed for, or otherwise

assigned"; paragraph 0227; "perform a measurement collection functionality ...

measurement collection functionality includes, but is not limited to, a

determination of the uplink quality and signal strength to each base station ... the

availability and usage of base station's over-the-air resources") said scheduling

module identifying a subset of said set of mobile terminals (see Menon;

paragraph 02227; "on each base station 30 or 101 for all used") according to a

set of identifying characteristics of a defined measuring campaign (see Menon;

paragraph 0227; "the measurement collection functionality includes, but is not

limited to, a determination fo the uplink radio quality and signal strength on each

...") and configuring, for executing said defined measuring campaign, at least

one measuring agent housed by each mobile terminal of said subset according

to said set of identifying characteristics (see Menon; paragraph 0228; "The base

stations' measured, and /or collected values, or results, are reported to the

wireless access system 10 or 100, based on a network configurable reporting

period. Any base station 30 and 101 may also be requested by the respective

system 10 or 100 to cease measurement value reporting. Further, any base

station 30 or 101 that was previously requested to cease measurement value

reporting may be instructed to resume measurement value reporting") wherein

each mobile terminal of said set of mobile terminals comprises (see Menon;

paragraph 0185; "Each node manager 854, in turn, manages two or more

network nodes 856. The network nodes 856 comprise the CPRUs 25, base

stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber

management procedure 160 generates and supports network management

access to subscriber information including, but not limited to, subscriber profiles

... subscription profiles include, but are not limited to, customer identification,

customer service support requests and the Quality of Service (QoS) subscribed

for, or otherwise assigned."): an elaboration agent configured to pre-process said

set of measurement data derived form said application session (see Menon;

paragraph 0168; "the NNM platform 114 provides standard APIs (Application

Platform Interfaces) which allow attachment of third party applications ... for

purposes including, but not limited to, trouble-shooting and error management,

asset management and system, service and functionality analysis"; paragraph

0188; "sports the application functionality for network node management,

including, but not limited to, configuration management, fault management,

performance management, accounting management and security management.

Likewise, the agent applications layer 841 of the node element protocol stack

840 supports the application functionality for network node management,

including, but not limited to, configuration management, fault management,

performance management, accounting management and security

management."); and a communication agent configured to send said set of pre-

processed measurement data to said management and configuration subsystem

(see Menon; paragraph 0228; "The base stations' measured, and /or collected

values, or results, are reported to the wireless access system 10 or 100, based
on a network configurable reporting period. Any base station 30 and 101 may
also be requested by the respective system 10 or 100 to cease measurement
value reporting. Further, any base station 30 or 101 that was previously
requested to cease measurement value reporting may be instructed to resume
measurement value reporting").

 Regarding claim 39, the architecture, wherein an additional subsystem is
provided for managing a collection of measurement data resulting form said
defined measurement campaign (see Menon; figure 9; paragraph 0167; "The
network management layer 130 comprises a Network Node Management
platform 114 for providing centralized network node management"), said
additional subsystem (see Menon; figure 9; paragraph 0167; "network
management layer 130") comprising at least one of a database (see Menon;
paragraph 0167; "database") for storing said collection of measurement data and
of a processing centre for processing said collection of measurement data (see
Menon; paragraph 0167; "The NNM platform 114 provides standard network
management functionality, including, but not limited to, configuration
management, fault statusing and provisioning"; paragraph 185; "the manager of
managers 852 is the Network Node Management (NNM) platform 114. The
manager of managers 852 manages two or more node managers 854.").

 Regarding claim 40, the architecture, wherein said at least one measuring
agent housed by each mobile terminal of said set of mobile terminals (see

Menon; figure 13; "Node (agent)" containing "SNMP" and "Agent applications") is

configured to dialogue with at least one homologous measurement (i.e. of similar

or same structure of same origin; see Menon; figure 12; figure 13; dialogue

between "Agent" and "Manager" thus using homologous measurement) and

management agent (see Menon; figure 12; "Nodes A-H" dialogue with "Node

Manager" dialogue with "Manager of managers"; figure 13; "Network Manager"

dialogues with "Node (agent)").

Regarding claim 42, The architecture, wherein said at least one measuring

agent housed by each mobile terminal of said subset is configured to perform

operations selected from the group of: conducting co-ordinated measurements

on said telecommunication network (see Menon; paragraph 0227; "base station

30 of the wireless access system 10 or a base station 101 of the wireless access

system 100 is operational, it performs a measurement collection functionality",

thus a coordinated measurement), performing local storage and pre-processing

operations according to a set of processing conditions of said telecommunication

network, and managing a transfer (see Menon; paragraph 0228; "results, are

reported to the wireless access system") of the collection of measurement data

resulting from said defined measurement campaign (see Menon; paragraph

0228; "results") to said additional subsystem (see Menon; paragraph 0228;

"base stations' measured, and/or collected values, or results, are reported to the

wireless access system 10 or 100, based on network configurable reporting

period. Any base station 30 and 1010 may also be requested by the respective

system 10 or 100 to cease measurement value reporting.").

       Regarding claim 43, the architecture, wherein said at least one measuring

agent housed by mobile terminal of said subset is configured to conduct

measurements selected from the group of: measuring (see Menon; paragraph

0227; "measurement collection functionality") quality and operating conditions of

a set of radio access parameters of said subset , monitoring end-to-end

transport performance in real traffic (see Menon; paragraph 0226; "Each CPRU

25, WARP 32 and base station 30 and 101 in wireless access systems 10 and

100 supports self-supervision functionality to detect failures due to equipment,

processing, communications, quality of service and environmental conditions";

paragraph 0228; "measurement collection functionality includes, but is not limited

to, a determination of the uplink radio quality and signal strength on each base

station 30 or 101 for all used, i.e., busy over-the-air channels, the signal strength

on idle, i.e., not user, over-the-air channels, the success rate of over-the-air

interface procedures, and the availability and usage of the base station's over-

the-air resources."), monitoring end-to-end transport performance in artificial

traffic, measuring and processing said subset to produce quality of service

indicators at an application layer, and monitoring operating conditions of a set

of resources of said subset and of said telecommunication network (see Menon;

paragraph 0219; "CPRUs 25, WARPs 32 and base stations 30 and 101 of

wireless access systems 10 and 100 status their own hardware resources to the

respective Operation and Maintenance Center (OMC) 72, including, but not limited to, a unique resource description that identifies the respective resource, i.e., the resource type, the version of the particular resource type, and the location of the resource. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is provided to the system's OMC 72 upon the respective CPRU's, WARP's or base station's power on or reset. The hardware resource information of a respective CPRU 25, WARP 32 or base station 30 or 101 is also provided to the OMC 72 as part of a hardware failure status report").

Regarding claim 45, the architecture, wherein said management and configuration subsystem comprises at least one communication agent (see Menon; figure 13; "Node (agent)")) that interfaces with said communication agent associated with said at least one measuring agent housed by each mobile terminal of said set of mobile terminals (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 46, the architecture, wherein said management and configuration subsystem comprises at least one communication agent (see

Menon; figure 13; "Node (agent)") that interfaces with at least one homologous communication agent associated with said additional subsystem (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 47, the architecture, wherein said management and configuration subsystem comprising an interface for interfacing with a user (see Menon; paragraph 0199; "the OMC management platform 992 comprises a Graphical User Interface (GUI) 993 for operator interaction in the network management functionality.").

Regarding claim 48, the architecture, wherein said additional subsystem comprises a communication agent (see Menon; figure 13; "Node Manager") configured to communicate (see Menon; figure 13; "Remote or local connection") with at least one communication agent (see Menon; figure 13; "Agent Application") associated with said at least one measuring agent (see Menon; figure 13; "Agent Application" associated with "Node") housed by each mobile terminal of said set (see Menon; figure 12) of mobile terminals (see Menon; figure 13; "Node (Agent)").

Regarding claim 49, the architecture, wherein said additional subsystem comprises an interface for interfacing said architecture with at least one external system (see Menon; figure 9; a layered architecture. Architecture contains "Network Layer Management", "Subscriber Management Platform", "Gateway Management", "Router Management", and other external "management" that manages and collects data.).

Regarding claim 50, the architecture, wherein said at least one measuring agent housed by each mobile terminal of said subset is configured to transfer (see Menon; paragraph 0228; "results, are reported to the wireless access system") said collection of measurement data (see Menon; paragraph 0228; "results") to said additional subsystem (see Menon; paragraph 0228; "base stations' measured, and/or collected values, or results, are reported to the wireless access system 10 or 100, based on network configurable reporting period. Any base station 30 and 1010 may also be requested by the respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 52, the architecture, wherein said at least one measuring agent housed by each mobile terminal of said subset dialogue with said at least one homologous measurement and management agent with a communication resource selected from the group of: information transport by means of SMS, TCP/IP transport (see Menon; figure 13; "TCP" and "IP" with "Remote or local connection"), and UDP/IP transport (see Menon; figure 13; "UDP" and "IP" with "Remote or local connection").

Regarding claim 53, the architecture, wherein said scheduling module is configured to perform at least one operation selected from the group of: defining the set of identifying characteristics of the defined ~~measurement~~ measuring campaign, identifying the subset of said set of mobile terminals to be subjected to said measuring campaign (see Menon; paragraph 0143; "subscriber profile comprises a respective subscriber identification, the subscribed for network services and an assigned Quality of Service (QoS) level"; paragraph 0170; "subscriber registration procedure 152 includes ... the subscriber data includes, but is not limited to, a subscriber profile ... an example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscriber for"), defining a set of measurements to be made and a set of quality of service indicators to be obtained, defining a set of characteristics of the set measurements to be made, and defining a set of contextual information associated with the set of measurements to be made and carried out by said at least one measuring agent housed by each mobile terminal of said subset.

Regarding claim 54, the architecture, wherein, in order to identify said subset of said set of mobile terminals, said scheduling module is configured to carry out operations selected from the group of: continuously searching for the subset of said set of mobile terminals meeting the set of identifying characteristics of the defined measuring campaign, recording said subset of said set of mobile terminals on an internal database, creating a measurement profile with information for conducting a set of measurements by the at least one

measuring agent housed by each mobile terminal of said subset of said set of

mobile terminals, activating the defined campaign on each mobile terminal of

said subset of said set of mobile terminals, sending (see Menon; paragraph

0228; "results, are reported to the wireless access system") the set of

measurements (see Menon; paragraph 0228; "results") collected from each

mobile terminal of said subset of said set of mobile terminals (see Menon;

paragraph 0228; "base stations' measured, and/or collected values, or results,

are reported to the wireless access system 10 or 100, based on network

configurable reporting period. Any base station 30 and 1010 may also be

requested by the respective system 10 or 100 to cease measurement value

reporting."), identifying at least one mobile terminal that no longer meets the set

of identifying characteristics of the defined measuring campaign , deactivating

the defined measuring campaign (see Menon; paragraph 0228; "Further, any

base stations 30 or 101 that was previously requested by the respective system

10 or 100 to cease measurement value reporting" thus deactivate the campaign),

and deleting the measurement profile from said each mobile terminal of said

subset of said set of mobile terminals.

Menon does not specifically disclose:

Regarding claim 38, interface with processes selected from a group of

processes among processes for managing application sessions of said

telecommunication network and processes executed by the mobile terminal for

directly measuring operating conditions of said telecommunication network to

derive therefrom a set of measurement data.

Korhonan more specifically discloses:

Regarding claim 38, interface with processes (see Korhonan; paragraph

0033; "IP Communication") selected from a group of processes (see Korhonan;

paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP,

user Datagram Protocol, Internet Control Message Protocol (ICMP)") for

managing application sessions (see Korhonan; paragraph 0033; "TCP/IP" is

used to manage and establish application sessions) of said telecommunication

network (see Korhonan; paragraph 033; "QoS" and "message" thus of a network)

and processes executed by the mobile terminal for directly measuring (see

Korhonan; paragraph 0021; "first of which is to pro-process and refine QoS data

into a form suited for applications") operating conditions of said

telecommunication network (see Korhonan; paragraph 0021; "activities include

e.g. the calculation of transfer rate, standard deviations and calculation of

percentages e.g. in loss of packets") to derive therefrom a set of measurement

data (see Korhonan; paragraph 033; "QoS" and "message" thus of a network);

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the invention of Menon, as taught by Korhonan, thereby overcoming

or alleviating drawbacks such as: being unable to guarantee a certain level of quality or

service (QoS) (see Korhonan; paragraph 0003), the problem of the level of quality of

data transfer varying considerably depending on location, time and network load (see

Korhonan; paragraph 0003), and not being able to provide a guarantee of packets

reaching their destination as IP-based packet switched network are basically "best

effort" network and packets are transmitted to their destination within the limits allowed

by the network (see Korhonan; paragraph 0004).

Menon discloses:

   Regarding claim 55, a method (see Menon; figure 1; "SMP" and "75";

paragraph 0182; "procedure") for monitoring quality of service (see Menon;

paragraph 0182; "The subscriber management procedure 160 generates and

supports network management access to subscriber information including, but

not limited to, subscriber profiles, subscription activity and subscriber account

balances. In an embodiment, subscription profiles include, but are not limited to,

customer identification, customer service support requests and the Quality of

Service (QoS) subscribed for, or otherwise assigned. In an embodiment,

subscription activity information includes, but is not limited to, respective

subscribers' usage, in time, of service supported by the wireless access system

10, or 100.") in a telecommunication network comprising a set of mobile terminals

(see Menon; abstract; "telecommunications network") comprising : associating

(see Menon; abstract; "a base station which provides wireless access for

CPRUs" which are terminals; figure 16; multiple "Customer Premise Radio

Units") each mobile terminal of said set of mobile terminals with at least one

measuring agent (see Menon; paragraph 0185; "Each node manager 854, in

turn, manages two or more network nodes 856. The network nodes 856

comprise the CPRUs 25, base stations 30, ... "; figure 13; "Node (agent)" houses

"SMP" which is the "subscriber management procedure 160 generates and

supports network management access to subscriber information including, but

not limited to, subscriber profiles ... subscription profiles include, but are not

limited to, customer identification, customer service support requests and the

Quality of Service (QoS) subscribed for, or otherwise assigned.") configured to

interface with applications (see Menon; paragraph 0168; "the NNM platform 114

provides standard APIs (Application Platform Interfaces) which allow attachment

of third party applications ... for purposes including, but not limited to, trouble-

shooting and error management, asset management and system, service and

functionality analysis"; paragraph 0188; "sports the application functionality for

network node management, including, but not limited to, configuration

management, fault management, performance management, accounting

management and security management. Likewise, the agent applications layer

841 of the node element protocol stack 840 supports the application functionality

for network node management, including, but not limited to, configuration

management, fault management, performance management, accounting

management and security management.") wherein said at least one measuring

agent is further configured to measure (see Menon; paragraph 0170; "collection,

storage, and management of subscribers") the load state of the mobile terminal

(see Menon; paragraph 0182; "subscriber activity information includes, but is not

limited to, respective subscribers' usage, in time, of services supported by the

wireless access system 10, or 100 ... ") and of the telecommunication network

and to adapt processing, management and collection of the measured data to the

load state measured (see Menon; paragraph 0182; "The subscriber management

procedure 160 generates and supports network management access to

subscriber information including, but not limited to, subscription profiles,

subscription activity and subscriber account balances. In an embodiment,

subscription profiles include, but are not limited to, customer identification,

customer service support requests and the Quality of Service (QoS) subscribed

for, or otherwise assigned."), wherein the mobile terminals comprise (see Menon;

paragraph 0185; "Each node manager 854, in turn, manages two or more

network nodes 856. The network nodes 856 comprise the CPRUs 25, base

stations 30, ... "; figure 13; "Node (agent)" houses "SMP" which is the "subscriber

management procedure 160 generates and supports network management

access to subscriber information including, but not limited to, subscriber profiles

... subscription profiles include, but are not limited to, customer identification,

customer service support requests and the Quality of Service (QoS) subscribed

for, or otherwise assigned."): an elaboration agent configured to pre-process said

set of measurement data derived from said application session (see Menon;

paragraph 0168; "the NNM platform 114 provides standard APIs (Application

Platform Interfaces) which allow attachment of third party applications ... for

purposes including, but not limited to, trouble-shooting and error management,

asset management and system, service and functionality analysis"; paragraph

0188; "sports the application functionality for network node management,

including, but not limited to, configuration management, fault management,

performance management, accounting management and security management.

Likewise, the agent applications layer 841 of the node element protocol stack

840 supports the application functionality for network node management,

including, but not limited to, configuration management, fault management,

performance management, accounting management and security

management."); and a communication agent configured to send said set of pre-

processed measurement data to said management and configuration subsystem

(see Menon; paragraph 0228; "The base stations' measured, and /or collected

values, or results, are reported to the wireless access system 10 or 100, based

on a network configurable reporting period. Any base station 30 and 101 may

also be requested by the respective system 10 or 100 to cease measurement

value reporting. Further, any base station 30 or 101 that was previously

requested to cease measurement value reporting may be instructed to resume

measurement value reporting") and conducting quality of service measuring

campaigns (see Menon; paragraph 0170; "subscriber registration procedure 152

includes ... collection, storage, and management of subscriber, i.e. customer, data ... subscriber data includes, but is not limited to, a subscriber profile ... example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscribed for, or otherwise assigned"; paragraph 0227; "perform a measurement collection functionality ... measurement collection functionality includes, but is not limited to, a determination of the uplink quality and signal strength to each base station ... the availability and usage of base station's over-the-air resources"), each quality of service measuring campaign involving a subset of said set of mobile terminals (see Menon; paragraph 02227; "on each base station 30 or 101 for all used") according to a set of identifying characteristics of a defined measuring campaign (see Menon; paragraph 0227; "the measurement collection functionality includes, but is not limited to, a determination fo the uplink radio quality and signal strength on each ...") and configuring, executing said defined measuring campaign, at least one measuring agent associated with each mobile terminal of said subset according to said set of identifying characteristics (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 56, the method as claimed in claim 55, comprising the managing a collection of measurement data (see Menon; figure 9; paragraph 0167; "The network management layer 130 comprises a Network Node Management platform 114 for providing centralized network node management") and providing at least one of a database (see Menon; paragraph 0167; "database") for storing said collection of measurement data and a processing centre for processing said collection of measurement data (see Menon; paragraph 0167; "The NNM platform 114 provides standard network management functionality, including, but not limited to, configuration management, fault statusing and provisioning"; paragraph 185; "the manager of managers 852 is the Network Node Management (NNM) platform 114. The manager of managers 852 manages two or more node managers 854.").

Regarding claim 57, the method as claimed in claim 55, comprising configuring said at least one measuring agent associated with each mobile terminal (see Menon; figure 13; "Node (agent)" containing "SNMP" and "Agent applications") of said set of mobile terminals to dialogue with at least one homologous measurement (i.e. of similar or same structure of same origin; see Menon; figure 12; figure 13; dialogue between "Agent" and "Manager" thus using homologous measurement) and management agent (see Menon; figure 12; "Nodes A-H" dialogue with "Node Manager" dialogue with "Manager of managers"; figure 13; "Network Manager" dialogues with "Node (agent)").

Regarding claim 59, the method, comprising configuring said at least one

measuring agent associated with each mobile terminal of said subset to perform

steps selected from the group of: conducting co-ordinated measurements on said

telecommunication network (see Menon; paragraph 0227; "base station 30 of the

wireless access system 10 or a base station 101 of the wireless access system

100 is operational, it performs a measurement collection functionality", thus a

coordinated measurement), performing local storage and pre-processing

operations according to a set of processing conditions of said telecommunication

network, and managing a transfer (see Menon; paragraph 0228; "results, are

reported to the wireless access system") of a collection of measurement data

resulting from conducting the defined measuring campaign (see Menon;

paragraph 0228; "results") to an additional sub-system for managing the

collection of the measurement data (see Menon; paragraph 0228; "base stations'

measured, and/or collected values, or results, are reported to the wireless access

system 10 or 100, based on network configurable reporting period. Any base

station 30 and 1010 may also be requested by the respective system 10 or 100

to cease measurement value reporting.").

Regarding claim 60, the method, comprising configuring said at least one

measuring agent associated with each mobile terminal of said subset to conduct

measurements selected from the group of: measuring (see Menon; paragraph

0227; "measurement collection functionality") quality and operating conditions of

a set of radio access parameters of said subset (see Menon; paragraph 0226;

"Each CPRU 25, WARP 32 and base station 30 and 101 in wireless access

systems 10 and 100 supports self-supervision functionality to detect failures due

to equipment, processing, communications, quality of service and environmental

conditions"; paragraph 0228; "measurement collection functionality includes, but

is not limited to, a determination of the uplink radio quality and signal strength on

each base station 30 or 101 for all used, i.e., busy over-the-air channels, the

signal strength on idle, i.e., not user, over-the-air channels, the success rate of

over-the-air interface procedures, and the availability and usage of the base

station's over-the-air resources."), monitoring end-to-end transport performance

in real traffic, monitoring end-to-end transport performance in artificial traffic,

measuring and processing on said subset for the production of quality of service

indicators at an application layer, and monitoring operating conditions of a set

of resources of said subset and of said telecommunication network (see Menon;

paragraph 0219; "CPRUs 25, WARPs 32 and base stations 30 and 101 of

wireless access systems 10 and 100 status their own hardware resources to the

respective Operation and Maintenance Center (OMC) 72, including, but not

limited to, a unique resource description that identifies the respective resource,

i.e., the resource type, the version of the particular resource type, and the

location of the resource. The hardware resource information of a respective

CPRU 25, WARP 32 or base station 30 or 101 is provided to the system's OMC

72 upon the respective CPRU's, WARP's or base station's power on or reset.

The hardware resource information of a respective CPRU 25, WARP 32 or base

station 30 or 101 is also provided to the OMC 72 as part of a hardware failure
status report").

Regarding claim 61, the method, comprising : measuring (see Menon;
paragraph 0170; "collection, storage, and management of subscribers"), by
means of said at least one measuring agent associated with each mobile
terminal of said subset, a load state of at least one mobile terminal of said
subset (see Menon; paragraph 0182; "subscriber activity information includes,
but is not limited to, respective subscribers' usage, in time, of services supported
by the wireless access system 10, or 100 ... ") and/or of said
telecommunications network, and adapting a monitoring of quality of service in
said telecommunication network to the measured load state (see Menon;
paragraph 0370; "an adaptation function is used by both CPRUs 25 and WARPs,
for coordinating, or otherwise interworking, between H.323 voice/fax signaling
and the GSM-managed circuit signaling procedures").

Regarding claim 62, the method, comprising the step of providing a sub-
system for the management and configuration of the quality of service
measurement campaigns that interfaces with said at least onemeasuring agent
associated with each mobile terminal of said set of mobile terminals (see Menon;
paragraph 0228; "The base stations' measured, and /or collected values, or
results, are reported to the wireless access system 10 or 100, based on a
network configurable reporting period. Any base station 30 and 101 may also be
requested by the respective system 10 or 100 to cease measurement value

reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 63, the method, comprising : providing a sub-system for the management and configuration of the quality of service measurement campaigns, and providing an additional sub-system for managing the collection of measurement data that interfaces with said sub-system for the management and configuration of the quality of service measurement campaigns (see Menon; paragraph 0228; "The base stations' measured, and /or collected values, or results, are reported to the wireless access system 10 or 100, based on a network configurable reporting period. Any base station 30 and 101 may also be requested by the respective system 10 or 100 to cease measurement value reporting. Further, any base station 30 or 101 that was previously requested to cease measurement value reporting may be instructed to resume measurement value reporting").

Regarding claim 64, the method, comprising the step of providing a sub-system for the management and configuration of the quality of service measurement campaigns that interfaces with a user (see Menon; paragraph 0199; "the OMC management platform 992 comprises a Graphical User Interface (GUI) 993 for operator interaction in the network management functionality.").

Regarding claim 65, the method, comprising providing an additional sub-system for managing the collection of measurement data configured to

communicate (see Menon; figure 13; "Remote or local connection") with said at

least one measuring agent (see Menon; figure 13; "Agent Application")

associated with each mobile terminal (see Menon; figure 13; "Node (Agent)") of

said set of mobile terminals (see Menon; figure 12).

Regarding claim 66, the method, comprising providing an additional sub-

system for managing the collection of measurement data configured to interface

with at least one external system (see Menon; figure 9; a layered architecture.

Architecture contains "Network Layer Management", "Subscriber Management

Platform", "Gateway Management", "Router Management", and other external

"management" that manages and collects data.).

Regarding claim 67, the method, comprising : providing an additional sub-

system for managing the collection of measurement data, and configuring said

at least one measuring agent associated with each mobile terminal of said

subset to transfer (see Menon; paragraph 0228; "results, are reported to the

wireless access system") said collection of measurement data (see Menon;

paragraph 0228; "results") to said additional sub-system (see Menon; paragraph

0228; "base stations' measured, and/or collected values, or results, are reported

to the wireless access system 10 or 100, based on network configurable

reporting period. Any base station 30 and 1010 may also be requested by the

respective system 10 or 100 to cease measurement value reporting.").

Regarding claim 69, the method, comprising configuring said at least one

measuring agent associated with each mobile terminal of said set of mobile

terminals for dialoguing with said homologous measurement and management agent with a communication resource selected from the group of information transport by means of SMS, TCP/IP transport (see Menon; figure 13; "TCP" and "IP" with "Remote or local connection"), and UDP/IP transport (see Menon; figure 13; "UDP" and "IP" with "Remote or local connection").

Regarding claim 70, the method, wherein conducting said quality of service measurement campaigns in turn comprises at least a step selected from the group of: defining the set of identifying characteristics of the defined measuring campaign, identifying the subset of said set of mobile terminals to be subjected to said defined measuring campaign (see Menon; paragraph 0143; "subscriber profile comprises a respective subscriber identification, the subscribed for network services and an assigned Quality of Service (QoS) level"; paragraph 0170; "subscriber registration procedure 152 includes … the subscriber data includes, but is not limited to, a subscriber profile ... an example of a parameter associated with a subscriber profile is a Quality of Service (QoS) level subscriber for"), defining a set of measurements to be made and a set of quality of service indicators to be obtained, defining a set of characteristics of a set of measurements to be made, and defining contextual information associated with said set of measurements to be made and carried out by said at least one measuring agent associated with each mobile terminal of said subset.

Regarding claim 71, the method, further comprising , in order to identify said subset of said set of mobile terminals, the steps selected from the group of:

continuously searching for the subset of said set of mobile terminals meeting the

set of identifying characteristics of the defined measuring campaign, recording

said subset of said set of mobile terminals on an internal database, creating a

measurement profile with information for conducting a set of measurements by

the at least one measuring agent associated with each mobile terminal of said

subset, activating the defined measuring campaign on each mobile terminal of

said subset, sending (see Menon; paragraph 0228; "results, are reported to the

wireless access system") the set of measurements (see Menon; paragraph

0228; "results") collected from each mobile terminal of said subset of said set of

mobile terminals (see Menon; paragraph 0228; "base stations' measured, and/or

collected values, or results, are reported to the wireless access system 10 or

100, based on network configurable reporting period. Any base station 30 and

1010 may also be requested by the respective system 10 or 100 to cease

measurement value reporting."), identifying at least one mobile terminal that no

longer meets the set of identifying characteristics of the defined measuring

campaign, deactivating the defined measuring campaign (see Menon; paragraph

0228; "Further, any base stations 30 or 101 that was previously requested by the

respective system 10 or 100 to cease measurement value reporting" thus

deactivate the campaign),and deleting the measurement profile from each

mobile terminal of said subset of said set of mobile terminals .

Regarding claim 72, a telecommunication network (see Menon; figure 1;

"network") comprising, the architecture (see Menon; figure 9; "item "110" is the

"management" architecture for "monitoring") as claimed in claim 38, and

associated with the telecommunication network (see Menon; figure 9; "item "110"

is associated with "network").

Regarding claim 73, the telecommunication network, comprising at least

an application server housing at least one measuring agent (see Menon; figure

13; "agent application" and "node (agent)") that interacts with said architecture.

Regarding claim 74, a non-transitory computer-readable medium storing a

computer program product for execution on a processor, (see Menon; figure 13;

"application", thus instructions embedded on a computer readable medium) the

computer program product comprising portions of software code for

implementing the method as claimed in any one of claims 55-57 and 59-71.

Menon does not specifically disclose:

Regarding claim 55, interface with processes selected from a group of

processes for managing application sessions of said telecommunication network

and processes executed by the mobile terminal for directly measuring operating

conditions of said telecommunication network to derive therefrom a set of

measurement data.

Korhonan more specifically discloses:

Regarding claim 55, interface with processes (see Korhonan; paragraph

0033; "IP Communication") selected from a group of processes (see Korhonan;

paragraph 0033; "TCP/IP, TCP, Transmission Control Protocol, UDP/IP; UDP,

user Datagram Protocol, Internet Control Message Protocol (ICMP)") for

managing application sessions (see Korhonan; paragraph 0033; "TCP/IP" is used to manage and establish application sessions) of said telecommunication network (see Korhonan; paragraph 033; "QoS" and "message" thus of a network) and processes executed by the mobile terminal for directly measuring (see Korhonan; paragraph 0021; "first of which is to pro-process and refine QoS data into a form suited for applications") operating conditions of said telecommunication network (see Korhonan; paragraph 0021; "activities include e.g. the calculation of transfer rate, standard deviations and calculation of percentages e.g. in loss of packets") to derive therefrom a set of measurement data (see Korhonan; paragraph 033; "QoS" and "message" thus of a network);

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Menon, as taught by Korhonan, thereby overcoming or alleviating drawbacks such as: being unable to guarantee a certain level of quality or service (QoS) (see Korhonan; paragraph 0003), the problem of the level of quality of data transfer varying considerably depending on location, time and network load (see Korhonan; paragraph 0003), and not being able to provide a guarantee of packets reaching their destination as IP-based packet switched network are basically "best effort" network and packets are transmitted to their destination within the limits allowed by the network (see Korhonan; paragraph 0004).

3.   Claims **51** and **68** rejected under 35 U.S.C. 103(a) as being unpatentable over **Menon (US 2001/0001268)** in view of **Korhonan (EP 1 304 831 A2)**, and further in view of **Bellifemine ("JADE: <u>J</u>ava <u>A</u>gent <u>D</u>evelopment <u>F</u>ramework").**

Menon in view of Korhonan disclose:

Regarding claim 51, the architecture (see Menon; figure 1; "SMP" and "75"; figure 9).

Regarding claim 55, the method (see Menon; figure 1; "SMP" and "75"; paragraph 0182; "procedure").

Menon in view of Korhonan do not specifically disclose:

Regarding claim 51, the architecture, wherein said at least one measuring agent house by each mobile terminal of said subset of mobile terminals operates according to Jade technology.

Regarding claim 68, the method, wherein said at least one measuring agent house by each mobile terminal of said subset of mobile terminals operates according to Jade technology.

Bellifemine more specifically discloses:

Regarding claim 51, the architecture, wherein said at least one measuring agent (see Bellifemine; slide 3; "Agent") house by each terminal of said subset of terminals operates according to Jade technology (see Bellifemine; slide 1;

"JADE: Java Agent Development Framework"; slide 5 "FIPA: Conceptual Model

of an Agent Platform"; "Agent Platform" for "Services").

Regarding claim 68, the method, wherein said at least one measuring

agent (see Bellifemine; slide 3; "Agent") house by each terminal of said subset of

terminals operates according to Jade technology (see Bellifemine; slide 1;

"JADE: Java Agent Development Framework"; slide 5 "FIPA: Conceptual Model

of an Agent Platform"; "Agent Platform" for "Services").

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the invention of Menon in view of Korhonan, as taught by

Bellifemine, thereby using a standard thus allowing for the enabling factor for openness

and heterogeneity (see Bellifemine; slide 3); allowing for agents from several designers,

several vendors, or several organizations (see Bellifemine; slide 3); providing a

standard way of interpreting communication between agents that respect the intended

meaning of the communication (see Bellifemine; slide 4).

Conclusion

3.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to ADAM DUDA whose telephone number is (571)270-

5136. The examiner can normally be reached on Mon. - Fri. 9:30 a.m. - 7:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kwang B. Yao can be reached on (571) 272 - 3182. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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/ADAM DUDA/
Examiner, Art Unit 2416

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